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Strategic Management and Regional Industrial Strategy: cross fertilisation to mutual advantage

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Abstract

We critically revisit extant perspectives and theories on strategic management (SM) and regional industrial strategy (RIS) and consider the scope for cross fertilisation to mutual advantage. Despite extensive literature on value capture/creation and co-creation strategies in SM, there have been few attempts to explore their relevance to building, and capturing value from, advantages at the regional level. Advocates of place-based approaches to RIS acknowledge the need for commercial potential; hence the need not only to create value but also to capture it in the region. Our aim is to go further by exploring the relevance and scalability of SM value capture strategies to RIS, and by showing how the focus of RIS on sustainability and value creation can benefit SM.

Keywords: Strategic Management, regional industrial strategy, sustainable competitive advantage, smart specialisation, sustainability.

JEL Codes: L52, O25, O30, R58

1. Introduction

Despite sharing a focus on ‘strategy’, the strategic management (SM) and industrial strategy (both national and regional IS - RIS thereafter) literatures have rarely crossed. This is unfortunate since there is fertile scope for mutual learning. A number of SM ideas on sustainable competitive advantage (SCA), and strategies for value capture, are readily scalable to the regional (and national) levels, which can potentially assist policy-makers to foster regional SCA. Moreover, the focus on value creation and sustainability in debates on national and regional industrial strategy (IS) can in turn be beneficial to SM and managerial practice¹.

From economics and SM perspectives, firms achieve SCA by being able to capture value (i.e. profit) from their Advantages - such as innovative capabilities over time, hence in a Sustained way, and to a greater extent than their rivals, hence in a Competitive way (Porter, 1985; Pitelis and Teece, 2009). Originally developed in the context of SM, the idea nations and regions should also be interested in capturing a part of the value they help create and/or co-create with other entities, is gaining recognition (Klein et al, 2013). Recently, RIS in Europe (and the USA) has largely revolved around the concept of place-based policy and in the European case, constructed regional advantage (CRA) and ‘smart specialisation’ strategies (3S). The latter is based upon the idea economic sectors and specifically regions can engender (construct) new advantages through the ‘*discovery of new domains of opportunity and local concentration and agglomeration of resources and competencies in these domains*’ (Foray, 2015; 1).

This raises the question of how exactly the value created by such discoveries, opportunities and specialisations can be translated into value capture for the region/regional actors. There is an assumption regional value creation is automatically translatable to regional value capture. While in a rather trivial sense CRAs will tend to benefit the place where they are created, SM teaches us for business organisations that the share of value captured by value creators and co-

¹ ‘Sustainability’ is widely used in SM and social science, yet the concept has several interpretations. In ecological perspectives, it relates to sustainable environmental management to safeguard biological eco-systems and/or sustainable business practices to reduce carbon footprints (see Johnston et.al, 2007). In economics and SM, the concept more often than not refers to delivering sustainable/ongoing socio-economic development and/or business growth fostered through better resilience to (economic) shocks/disturbances and adaptability to changing economic conditions (Christopherson et.al, 2010). Another dimension to sustainability is where satisfaction of an objective in the short term (like short-term profit maximisation) can undermine the same objective in the future (long-term profit maximisation) or where the satisfaction of the objectives of one economic agent (or group thereof) undermines the objectives of other groups i.e. where business growth harms the natural environment (Mahoney et al (2009), Pitelis (2013)). For us, sustainability involves economic, social and environmental dimensions (Pitelis, 2013), hence sustainable regional economic development is not inimical and instead involves also delivering on sustainable environmental goals.

creators can be critical for success and even business survival (Teece, 1986). This observation becomes more interesting when the actors involved are no longer just different businesses, but business (local and foreign) and other regional actors i.e. the regional economy and community at large (and if one wants to complicate matters regional decision makers). Importantly too, the how and how much CRA will best benefit the region is critical - and this is where SM is useful.

Despite the extensive literature on value creation/capture strategies in SM, there have been few attempts to explore their relevance at the regional/national levels. While advocates of place-based approaches, notably CRA and 3S, advance discussion by recognising the need for commercial potential, hence profitable (value capturing) regional activity (Clarysee et.al, 2014), they do not delve into the specifics of how/what particular value capture strategies can be redeployed by regional policy-makers. In addition, the concept of ‘commercial potential’ hints to the role of business (who normally commercialise) and hence implicitly to a potential division of labour between business actors and regional non-business actors. It is arguable these should all become more explicit. Accordingly, one aim of this paper, is to critically assess the 3S and related approaches, and expand upon it by leveraging ideas from SM, such as the closely related business ecosystem-based view (see Pitelis and Teece, 2009), in order to propose specific strategies through which regions can capture sustainably co-created value and delve into ‘good practice’, based upon a division of labour between the players involved. We also submit on the other hand, that the value creation and sustainability focus of RIS has important implications and provides learning opportunities for SM, which typically downplays the potentially detrimental implications of an exclusive pursuit of business related SCA (Mahoney et al, 2009). In so doing, we propose ways in which value creation and capture activities can be mutually reinforcing at both firm and regional levels.

The paper proceeds as follows. Section 2 reviews and highlights key literatures on SM, value capture and value creation (and co-creation). Section 3 brings together key regional studies contributions on place-based RIS, CRA, 3S, and regional eco-systems. Section 4 weaves together SM and place based RIS approaches emphasising ‘the what’ and ‘how’ of value capture strategies at the regional level. Section 5 concludes, with some opportunities for further research and cross-fertilisation.

2. Strategic Management, and Value Capture and/from Value Creation to Co-creation

2.1 The Concept of Value

In recent years, the concepts of value, its creation and capture have become key in the SM literature (Lepak et al. 2007). The original focus of SM was (and remains) value capture which is basically a broader term for profitability potential - a key objective of business. However, unless one enjoys some sort of monopoly advantage, it is often the case that in order to capture value one needs some value creating advantages to start with and (then) capture part of it (Pitelis and Teece, 2009). Hence, the interest in, and role of (the interface between) value capture, value creation and co-creation and SCA in SM (Pitelis, 2009a).

The debate on value clearly precedes SM; the very concept of 'value' is highly contentious in social science. Classical economists regarded labour embodied in the product as the sole source of 'value', as famously epitomised in Marx's more developed version of the 'labour theory of value'. Smith (1776) had made the initial distinction between 'value in use' and 'value in exchange', and most classical economists shared a variant of that theory. It was only later the 'marginalist revolution' emphasised utility as the sole source of value, leading to a theory of price determination (Dobb 1973; Bowman and Ambrosini, 2000). Dobb (1973) emphasised both utility and embodied labour power-work are likely to co-determine value and eventually price.

For our purposes we consider 'value' in terms of the perceived worthiness of an activity/product/service to an economic agent, which in the case of organisations aiming to sell products refers to a potential and/or target user (Pitelis, 2009a; 1118). Value creation refers to the additional value engendered through the said activity, product or service. In operational economic terms and assuming markets and prices exist, value creation becomes akin to the easier to understand (and measure) concept of 'value added', defined by Kay (1995, 19) as the *'difference between the (comprehensively accounted) value of a firm's output and the (comprehensively accounted) cost of the firm's inputs'* (1995: 19). For Kay, 'value added' is the key measure of corporate success. For businesses, value added is only realised as a profitable sale once consumers purchase the product/service at a market price exceeding the cost of production. For some firms 'value added' may not be realised at all due to the lack of user demand, or in case they face competitors with lower priced substitutes and/or superior quality products and/or other complementary advantages (Teece, 1986). This implies firms should concomitantly consider both value creation and value capture i.e. they need to capture

in a sustainable way, part of the value they and/or others helped create and/or co-create (Pitelis, 2009a, b).

In general, realised ‘value added’ by a firm manifests itself through either raising the ‘perceived utility’ of a product/service and charging higher prices, or through reducing unit costs hence increasing the price-cost margin (for a given price). Firms may manipulate both of these facets of ‘value added’ through market power and restrictive practices, higher ‘perceived utility’ by users through better promotion and marketing, lower unit labour costs through (the threat of) ‘the sack’ and/or re-locating production, outsourcing, zero hour contracts and a raft of related ‘innovations’. Alternatively, ‘value added’ might be enhanced through innovation in terms of either enhanced products/services (outputs) or more efficient production processes (inputs). These routes to higher levels of ‘value added’ are not mutually exclusive; firms typically pursue them simultaneously.

2.2 Determinants of Value Creation and Value Capture in SM

2.2.1 Value Creation

From economics and SM, it can be argued there exist four generic determinants of value creation: innovation and technology; human resources and the services they provide; increasing returns to scale; and firm infra-structure and strategy (Pitelis, 2009a). While ‘technology and innovation’ are widely recognised as the key determinant of value creation, from Smith and Marx on to Schumpeter’s focus on ‘creative destruction’ and the systems of innovation and Varieties of Capitalism literature, the other three determinants are also key, not least given innovation and technology can be destructively destructive too. Consider for example recent debates on the role of financial innovations that famed investor Warren Buffet has called ‘weapons of mass destruction’ as well as older and recent fears over the impact of new innovations and technologies on job creation (Green et al, 2015). The importance of human resources (labour, managers and entrepreneurs) is acknowledged in the economics, strategy, human resource management and entrepreneurship literatures. Increasing returns to scale (alongside innovation) are a key factor in Keynesian economics (e.g. Kaldor, 1970, who pioneered the debates on RIS with his classic case for regional policy - see also Thirwall, 2013),

but also in strategy (Chandler, 1962), classical and neoclassical economics (e.g. Arthur, 1989), not least ‘new endogenous growth theories (Romer, 1986)².

While the literature often treats these factors in isolation, or bundled together in the ‘black box’ of ‘the firm’, it is the interaction, consistency and coherence of these factors which engender ‘value’. For instance, in modern organisations, human resources and skills are the key drivers behind a firm’s innovative endeavour and broader market strategy. Similarly, new technology and process innovation can reduce unit costs, while also being an explicit element of organisational strategy. A firm’s infrastructure and organisation is critical for implementing strategies and operations, especially with regard to new technologies and human resources; reducing unit costs, for instance, frees up resources for innovation (Chandler, 1962). In short, it is the interaction and co-determination of these generic factors, which helps engender perceived value to consumers hence the need to be a constituent part of firm strategy and its business model.

Clearly firms cannot create value in isolation (except in the sense of intrinsic personal utility derived from ‘being in the game’), if there is no other subject appreciating the said value. In this sense value is always co-created - its very perception requires a third party to consider the outcome-offering as being ‘valuable’. Value co-creation takes much more specific meanings in practice, for example when firms cohabit and engage in co-opetition (compete and cooperate at the same time) in ecosystems or clusters and even more narrowly when they enter alliances and other forms of inter-firm cooperation (Pitelis, 2012). In doing so, this value co-creation process invokes questions of governance, especially with regards to the management, organisation and control of firms and connected actors; specifically, the allocation of resources and establishment of appropriate rules and social norms to motivate entrepreneurial activity within the ecosystem or cluster and wider society (Colombo et.al, 2017). This in turn, has implications for sustained regional development (see Section 4).

2.2.2 Value Capture

Business enterprises create value with an eye for profit, which requires value capture strategies (Brandenburger and Nalebuff, 1995). This is of the essence for acquiring SCA; without value capture, the organisation is not sustainable. In competitive markets, new products/processes

² See Pitelis (2016) for a more extensive account of these literatures.

can often be imitated, and value created by firms may be captured by rivals. The extent to which firms can capture value created from their activities and the activities of others depends on many factors, notably their strategy, market and other types of power (such as political, see Zingales, 2017), innovative capability, agility and sometimes serendipity and sheer luck.

The historic debate in SM points to four key generic groups of strategies aimed at value capture: positioning strategies (cost leadership, product differentiation and niche, as in Porter (1980); barriers to entry and relatively impregnable bases strategies as in Penrose (1959) and Bain (1956), and the resource based view (Barney, 1991); integration, diversification and inter-firm cooperation strategies (also make/buy/ally) as in Coase (1937), Williamson (1975), Chandler (1962), Porter (1985, 1990) and the RBV; and an integrative firm-wide identity/differentiation and branding strategy which in effect is the combined outcome of all other strategies alongside distinct strategies aiming to foster such differentiation and branding at the corporate, not just product or service, level (Pitelis, 2009a). These elements of value capture interact with each other. For instance, adopting either a Porter (1980)-type ‘cost leadership’ or ‘product differentiation’ strategy may raise market entry barriers, reduce competition and enhance a firm’s market share by beating competitors. Similarly, a strategic decision to vertically integrate to reduce transaction costs can also enhance a firm’s market power and enable it to better capture value (Pitelis, 1991). Moreover, building unique firm resources and capabilities, which are difficult to imitate, alongside a culture of ongoing value creating innovation and developing a reputation for quality can foster a ‘brand identity’, enabling value capture through corporate branding.

Strategies for value capture are also often (but not always) closely linked to those related to value creation; indeed, they can be mutually-reinforcing. For example, barriers to entry (to enhance market power) such as product differentiation or cost advantages, reduce unit costs and/or increase perceived value to consumers, hence create value. Even (temporary) monopoly can be good when it functions as an incentive to innovate and create value to be captured (Schumpeter, 1942). In addition, intra-firm barriers to entry, what the RBV calls VRIN (Valuable, Rare, Inimitable and Non-substitutable) resources and capabilities, or the more sophisticated package of internal barriers and external positions that Penrose (1959; 137) labelled technological or ‘relatively impregnable bases’, allow firms to distinguish themselves from rivals and capture value, but they also enable firms to engage in ongoing value creation through innovation and diversification. However, there exist strategies where value capture

undermines value creation (such as in cases of monopolistic restrictions) and in the other extreme when value creation does not entail value capture, because the inventor fails to commercialise successfully and/or someone else captures the value created (Teece, 1986).

From an SM perspective, the interactions and overlapping of these groups of value capture strategies suggests value capture and creation are co-determined and co-evolve between themselves and with SCA (Pitelis, 2009a). This implies firms need to be ambidextrous; i.e. able to exploit their existing assets and capabilities for short term commercial gains, while also exploring new competencies and innovative opportunities to achieve long-term success. This in itself can be especially challenging, since short term profit pressures as well as uncertainty about the outcomes from exploration, can all tend to favour exploitation. Yet, exploitation without exploration means firms risk being disrupted by other innovators. Hence an exclusive focus on one of the two can be detrimental to long term business performance (Mizik and Jacobson, 2003)³.

Be(com)ing ambidextrous however is easier said than done. This needs to be embedded in the culture and systems of the organisation and may be beyond the scope and resources and capabilities of smaller, resource constrained players. In the short run, and/or for resource constrained actors, there are trade-offs to exploration and exploitation, as well as to value creation and value capture strategies. When pursuing value capture, organisational resources may be diverted from value creating exploration activities and vice versa;

Insert Figure 1 Here

The above discussion is summarised in Figure 1, where a representative firm is shown to be theoretically at least able to capture the full value it has created. However more often than not, the firm is only able to capture a partial amount of the total value created. For instance, knowledge diffusion may allow rivals to imitate and capture (appropriate) some of the value for themselves. In other cases, firms can capture more value than they have themselves helped create. The four groups of value capture strategies determine overall how successful a firm will be (in conjunction to the four determinants of value creation and co-creation). This makes value capture strategy of the essence, and highlights the importance of value co-creation

³ Indeed, for many firms achieving short term success by exploiting existing assets is often a pre-requisite to provide the resources for exploratory and (radical) innovation-led activities. In the long term, exploration is critical to ensure firms are able to compete in the face of structural change (March, 1991). For a full review of the extant SM literature on (the types of) 'organisational ambidexterity', see O'Reilly & Tushman (2013).

through which overall capture-able value expands. This also points to the importance of competition and/or with cooperation, or in today's parlance co-opetition. All these are highly relevant to regions and regional strategies and advantage (see below).

3. Regional Studies Perspectives

The lessons from SM can be useful for regions and nations but hitherto, they have not been adequately explored. Below we adopt a multi-level perspective and show how the key determinants of value creation and value capture can be both scalable to higher levels such as regions and nations and also how the literature and focus of RIS on value creation, can help enrich SM. We start from recent developments in place-based RIS.

3.1 Place- Based Regional Industrial Strategies (RIS)

It is arguable strategies for value creation and capture at the firm level are scalable and/or otherwise applicable at the regional level. This is especially relevant within the context of recent interest in place-based RIS, which became manifest in two distinct, but related policy concepts: constructed regional advantage (CRA) and smart specialisation strategies (3S). In contrast to 'one-size-fits all' policy frameworks, both concepts emphasise greater policy space and scope so as to enable regions to '*create their own futures*' (Benneworth, 2018, p.4). A key focus in place- based approaches is for regions to generate value creation opportunities through developing (new) place-specific specialisms and capabilities, which emerge from regional geographies, histories, cultures and institutions (Barca, 2011: 223).

3.1.1 Constructed Regional Advantage (CRA)

The CRA concept emerged in the mid-2000's in response to widespread dissatisfaction with existing European Union (EU) technology and innovation policy that was largely a-spatial and predominantly geared towards actors based in a select group of high tech regions (Boschma, 2014). The CRA approach argued innovation processes are shaped by differentiated knowledge bases, i.e. whether they are analytical (science-based), synthetic (engineering based) or symbolic (artistic based) of firms and/or regions and their re-combinations. CRA emphasised place-specificities and sought to leverage policy to deliberately build upon a region's existing knowledge bases, capabilities, governance and institutional structures as a platform to create (construct) new (regional) competitive advantages (Asheim et.al, 2007). For the CRA approach, context is important in any policy design (Boschma, 2014).

A key facet of the CRA view is the notion of ‘related variety’ which captures the variety of industrial sectors located in a region that are cognitively related (Frenken et.al, 2007). In regions where sectors are technologically adjacent and there is a sufficient degree of cognitive proximity, there may arise opportunities for mutual learning, knowledge exchange, and cross-fertilisation⁴. This may lead to technological diversification and ‘regional branching’, where new industrial and technological paths emerge out of existing embedded industrial structures. Indeed, regional branching has become a pattern across Europe (Kogler et al., 2017) offering opportunities for endogenous regional growth (Boschma and Gianelle, 2014, Mameli et al., 2014). The exemplar European region is Emilia Romagna, which has successfully built upon its existing engineering knowledge base to innovate into a series of technically advanced sectors from machinery to robotics (Asheim et.al, 2011). Finally, in order to accommodate both ‘differentiated knowledge bases’ and foster ‘related variety’, CRA advocates the use of policy platforms, which are trans-sectoral and offer a range of policy supports such as generic training/skills development and policies to foster the adoption of general purpose technologies (Cooke, 2007).

The approach of the proponents of CRA is similar to Porter’s (1990) so called ‘diamond’ of national competitive advantage, where related and supporting industries help co-determine national SCA and the Porter-popularised clusters-based views (Pitelis, 2012). These approaches help co-create national or regional SCA - a key difference is the emphasis proponents of CRA place on cognition.

3.1.2 Smart Specialisation Strategies (3S)

At the same time CRA was being put forward, smart specialisation (3S) emerged from the Knowledge for Growth (K4G) network (2005–2009), a group of innovation scholars commissioned by the EU to explore ways in which policy could raise European knowledge creation/transfer and enhance innovation-led growth. Across the EU, 3S quickly became a key component of the EU’s ‘Innovation Union’ programme – known as RIS3 (Research and

⁴ If the cognitive distance (between sectors) is too wide, it may preclude any form of useful knowledge exchange and/or cross-fertilisation, while if it is too close there are likely to be few opportunities for cross-sectoral learning (Boschma, 2005).

Innovation Strategies for Smart Specialisation). The basic premise of 3S is regions and nations need to prioritise state support for ‘*activities*’ in uncharted technologies, and fields or domains (at the regional level) which have the potential for ‘entrepreneurial discovery’, knowledge spillovers, innovation, scale, agglomeration and commercial exploitation (Foray, 2015). The emphasis with 3S upon the ‘entrepreneurial discovery’ process differentiates it from the CRA framework (Boschma, 2014) and prior similar approaches such as the National Systems of Innovation (NIS) and related Regional and Sectoral Systems of Innovations views (Malerba, 2005) and the Varieties of Capitalism approach (Hall and Soskice, 2001). The 3S concept quickly assumed a (differentiating) spatial dimension, arguably when it became apparent its inherent policy logic was closely aligned to the development of regional clusters and the aforementioned systems of innovation views (McCann and Ortega-Argiles 2015).

3S differs from more traditional approaches such as cluster policies which favoured *industrial specialisation*, in advocating specialisation at a more *granular* level i.e. specialising in those *activities* which enable regions to build a unique knowledge base and – within this technological domain – develop a competitive advantage (Foray, 2014). This reflects the fact that: a) ‘an ‘activity’ may not be industry specific (e.g. ‘*activities*’ to develop more efficient energy management will have applications across industries); and b) industrial boundaries themselves are becoming increasingly blurred (for example, between manufacturing and services, which can be combined leading to the concept of ‘servitisation’). The rationale is directing 3S policy initiatives at the *activity level*, enhances the potential to generate a wider range of innovations and entrepreneurial opportunities at the interstices of sectors.

The notion of ‘activities’ is not adequately defined either in conceptual or policy terms, but has gained currency also in SM where it is championed by Porter (1985). However, it remains generic and it is arguable it can be of more benefit by being delineated using the notion of ‘*competences*’ or *capabilities* (ordinary and dynamic) (Lambooy and Boschma, 2001). Basing 3S on regionally relevant activities, in terms of regional available competences/capabilities and other advantages, may better inform policy implementation. Indeed, opportunities typically emerge from within existing place-based technologies, capabilities and specialisms. The private sector can play a crucial role since it is ideally positioned to unearth new entrepreneurial/commercial opportunities within these regional domains.

The appropriability problem and associated market and systemic as well as coordination failures, will often lead private firms to underinvest in value creating activities with limited value capture potential (Rodrigues-Clare et al, 2005). To redress this, the state – at regional levels - can support private firms to identify and fund suitable projects, and shape and co-create (potential) opportunities that may otherwise not have been pursued (Foray, 2015). In doing so, 3S can build upon a region's existing industrial commons to facilitate new regional growth paths, enabling regions to embed new assets that are difficult to shift; to become a 'sticky place' (Markusen, 1996).

3.2 The Regional Eco-System

An aim of place-based industrial strategies based upon either CRA and 3S (or a combination of both) is to shape and co-create the regional ecosystem comprising a skilled labour pool, an agglomeration (and regional networks) of firms, universities and public research organisations and related and supporting institutions and organisations. These constituents can engender knowledge and technological spill-overs from which new opportunities and entrepreneurial discoveries can arise.

The governance of connected actors especially with regards to the degree of relational embeddedness residing within networks can be crucial to co-creating and capturing value within the regional eco-system (Bailey et.al, 2018). However, the question as to 'how this can happen' has not been adequately explored. Here it is important to distinguish between different types of networks: particularly *knowledge* and *business* networks (Giuliani, 2007). Knowledge networks are deliberately selective and encompass collaboration and knowledge sharing between technological leaders to solve specific, complex technical problems. The network is geared towards new knowledge generation, its subsequent development and eventually its diffusion among networked firms. Business networks are more market focused, with firms largely collaborating over the application and exploitation of existing knowledge, so as to deliver innovative products/services to consumers (Autio, 1998). Large firms will typically play a key role as facilitators, co-ordinating activities along the supply chain, possibly providing 'platform services' (e.g. technology/training workshops), and in turn, engineering new market opportunities (Wright, 2014). The spatial dimension of both types of networks may be global, although they normally reside within regional eco-systems where market, social and institutional ties co-exist.

While successful value creation and value capture can benefit from a transposition of ideas and practices across both types of network, they have different structures and dynamics and a natural connection may not necessarily materialise (Clarysee et.al, 2014). Within the regional eco-system ‘anchor tenants’ may act as a bridge. These are public or private organisations heavily engaged in R&D with the absorptive capacity to apply new knowledge in a particular technological field to generate knowledge externalities within the region in which they are located (Agrawal and Cockburn 2003). They facilitate value creation activities through knowledge generation and as conduits for knowledge transfer. Public anchors include regionally based universities and/or public research organisations (PROs) that are highly linked in the regional knowledge network. Examples of public anchors as ‘bridges’ can be seen in Japanese *Kohsetsushi* Centres run at regional level (offering support to small and medium sized firms (SMEs) in accessing new technologies and providing opportunities to participate in joint applied research) and in a similar vein the German *Fraunhofer* institutes (Andreoni, 2016). Private anchors such as multinational corporations tend to operate in business networks (although they may be part of a global knowledge network) and are more market orientated; through both their (global) knowledge and business networks they seek to capture co-created value.

In either case, the anchor assumes a prominent position within the governance of the regional eco-system - as both a feeder of resources into the eco-system and as a ‘shaper’ of technology and network relationships (Stam, 2015, Acs et.al, 2017). This has implications for the composition of actors, the incentives to participate and hitherto the strategic orientation and ultimately the performance of the eco-system itself. For instance, large private anchors may appropriate new ideas and technologies from smaller networked firms, thus hampering the subsequent entrepreneurial dynamic. Acquisitions especially ‘predatory’ ones (when one acquires a company that may become a competitor and/or help a competitor in order to neutralise this risk), can play the same role. On the other hand, private anchors may engage in co-specialisation with the local SME base, spurring new complementary innovations and spin-off opportunities (Bhawe and Zahra, 2017).

Moreover, while both private and public anchors seek to build connections between actors across both networks, it is private anchors that are best placed to align regional knowledge networks to their (global) business (value) networks. This bridge is critical to generate, create

and capture value in regional economies. In its absence, knowledge derived from knowledge networks may engender little ‘value’ that can be captured, hence constraining the development of the regional eco-system (Clarysse et al. 2014). This can pose some challenges in the distribution of value captured (see Section 4).

The RIS debate on network types and the role of anchors parallels the debate in SM on business ecosystems. The latter helps address some lacunae in the RIS view in that it is explicitly focused on value capture and on value capture supporting governance structures. In SM, business ecosystems are co-created through orchestration by focal orchestrators (mostly large multinational firms) seeking to simultaneously increase the pie (co-create value) and capture a large part of it, by virtue of their key role in them as orchestrators. Through this VRIN-type role, focal players help ensure that the business ecosystem governance and hence control, foster their desired objective to capture co-created value through context co-creation and orchestration (Pitelis and Teece, 2018). In this perspective it is the intention to capture value that leads to business ecosystem-based value co-creation and governance structures aimed to facilitate the objective. There are important lessons here for regional decision makers.

4. Strategic Management and Place Based Regional Industrial Strategy

While the CRA and 3S approaches focus upon identifying and supporting opportunities for value creation, neither approach says much about specific ways for capturing and retaining value in the region (Bailey et.al, 2018). Indeed, value can be largely captured in business networks by large multinational corporations leveraging publicly funded knowledge networks, (and in some cases shifting production to lower cost locations). This can be inimical to sustainable regional development and calls for smart public regional policy. One way to address this is through better governance and a regional industrial strategy that focuses upon co-creation and value capture (Cowling and Tomlinson, 2011; Pitelis and Tomlinson, 2017).

Both SM and RIS scholars have begun to explore how public agencies can act as entrepreneurs to co-create value, and help capture as much of it as possible for regional actors including the public sector (Klein et al, 2010). From a policy perspective, this implies going beyond traditional policy measures and/or 3S-based measures focusing upon value creation alone, and instead considering particular value capture strategies (and also upon the impact of value capture on the sustainability of the value co-creation process). Regional policy makers may

well need to go beyond enhancing regional embeddedness and engendering ‘sticky’ places (Markusen, 1996), by adopting SM-informed value capture strategies. This implies going beyond becoming ‘sticky’ to becoming more strategic, learning from SM. As already noted, SM has analysed the raft of specific strategies and governance structures to foster value capture potential that go beyond mere stickiness. In this regard, the SM literature might better inform place-based RIS to deliver regional value capture and fairly distributed value captured. Drawing on the above, we can now focus on how regions can leverage ideas from SM to capture co-created value for the region.

4.1 Regional Value Capture Strategies

As already noted, there are four groups of value capture strategies at the organisational level. We ask here whether these are scalable and/or otherwise applicable and useful at the regional level. We start with Porter’s three generic or positioning strategies. As it happens the concept is readily applicable to the regional level. From a regional strategy perspective, this entails policy-makers identifying and seeking to develop competence-supported activities which differentiate the region from its competitors; hence ‘position’ it in a positive way.

Cost leadership, differentiation and/or focus/niche strategies are all ways in which a region can ‘position’ itself vis-à-vis other regions. A focus or niche strategy, can involve a cost leader in a niche or a differentiator in a niche. Arguably it is even better for regions to adopt a niche-based cost leader cum differentiator strategy in terms of *relative* cost-differentiation advantages. This is a composite strategy akin to the value for money approach in business strategy (Pitelis and Taylor, 1996). It is preferable to other strategies precisely because it is more sophisticated hence harder to replicate (Pitelis, 2009b). This is particularly the case when such a strategy is being multi-niche i.e. its focus can be at more than one niche activity but also more target buyer segments.

Such a positioning strategy requires embedded ambidexterity within firms and regions. For instance, MacNeill and Jeannerat (2016: 252) recently explored the shift into the premium or ‘status market’ by West Midlands automotive firms to ‘*reduce cost sensitivities and provide opportunities to extract higher value*’. More widely, Cambridge and London in the UK, Stuttgart and Karlsruhe in Germany, Stockholm in Sweden and the Hovedstaden region of Denmark are noteworthy cases in point (EC, 2017). In contrast, regions with high relative costs and low differentiation competing in areas where they do not possess a clear constructed

advantage, are usually technological laggards and struggle to compete in international markets. High relative costs are a reflection of low innovative capability, weak infrastructure, a lack of increasing returns to scale, and/or weak organisational and institutional configuration (Pitelis, 2009b). Many Eastern European regions struggled and often still do in these respects (EC, 2017).⁵

Barriers to entry, relatively impregnable production bases and/or bottleneck assets are SM concepts and strategies also readily applicable to the regional level. For instance, in the global economy, there are national barriers to entry in the form of trade barriers. As in SM, these can be innocent/technological (e.g. high quality German cars) or strategic (e.g. through exchange rate manipulation policies), and where these exist, they can be beneficial for constructing and maintaining regional SCAs. For example, the EU acts as a barrier to entry to non-members to US firms competing with European producers, through product standards and regulations. These allow European (regional) producers a defence against low cost/poorly regulated international competition (*the 'race to the bottom'*), and enable them to build upon their existing capabilities by focusing upon higher value added, differentiated products that are hard to imitate. This is especially evident in agriculture, where higher EU animal welfare standards and farming practices have enhanced the market for Europe's culinary regions and the demand for high quality, specialised products such as Aberdeen Angus beef, Iberian ham and French regional cheeses (e.g. Roquefort in the Midi-Pyrenees and Camembert de Normandie). Similarly, for German automotive firms, particularly those in Baden-Württemberg and Lower Saxony, membership of the Eurozone locks in a structural competitive advantage, since the more competitive value of the Euro (vis-à-vis the German Deutschemark) functions as a de facto exchange rate policy.

Integration, cooperation (make/buy/ally) and diversification strategies are also readily applicable to the regional levels. Again, the EU is a form of inter-regional cooperation and integration. It has several interregional cooperation frameworks aimed at EU value creation and capture. Baden-Württemberg has been a particular beneficiary, with its advanced manufacturing sectors being widely integrated in projects such as the European Factories of the Future Research Association (EFFRA), Sustainable Process Industry through Resource Energy Efficiency (SPIRE) and the Vanguard Initiative (which has also benefited Emilia-

⁵ As Hausmann and Rodrik (2003) note, a lack of innovators engaged in successfully adapting technologies and production processes developed elsewhere limits innovation capacity in non-frontier regions.

Romagna). These collaborative initiatives aim to ensure European manufacturers remain at the cutting edge of the technological frontier and take advantage of the new possibilities of Industry 4.0. Baden-Württemberg has been particularly successful in aligning its engagement in these pan-European ventures, with its own involvement in the national German Platform Industrie 4.0 and regional cluster initiatives such as Leading Edge Cluster microTEC Südwest (Spitzencluster microTEC Südwest) (see EC, 2014).

Many regions and their indigenous firms have successfully diversified their target markets too. In the Montebelluna sportswear district of Italy, firms successfully responded to global competition in the early 1990s, through a selective process of relocation (to Eastern Europe) substituting outplaced (low cost) activities with more valued ones within the district. This was done by shifting upmarket and diversifying into the *‘most valuable and creative phases of sportswear filière’* (Sammorra and Belussi, 2006, p. 553–554). Similarly, in the UK’s North Staffordshire Table and Giftware sector, the more innovative firms have abandoned attempts to compete with low-cost Asian competition and instead diversified into new, often niche markets (and occasionally offering bespoke personalisation services). Such strategies have extended into the ceramics supply chain, where some decals manufacturers have begun not only to focus upon the higher end of the market and produce high quality complex decals that are hard to imitate, but also to exploit these new techniques in adjacent sectors such as glass, fine art reproduction and high end photographic posters (Tomlinson and Branston, 2014).

Concerning a regional differentiation-brand strategy, this is also much better understood and applied by many regions. The Swiss watch making cluster, centred on the Jura arc, has over time increased its aesthetic and cultural dimensions so as to capture value and in so doing attracted luxury brands to locate in the region, and more recently has relied upon cultural activities enabling the co-production of branding activities (Jeanerrat and Croivovisier, 2011). Similarly, the Scotch Whisky industry has not only utilised its unique geological location (that favours whisky production), but has also developed world leading distilleries synonymous with high quality malts. Consequently, the whisky clusters, especially in the Scottish Highlands and notably Speyside, have long traded on their place brand, which has a global consumer following.

In all, regions can create regional capability-based activities that are essential for (global) production chains, but are difficult to imitate or dislodge. This requires a region’s constituent firms acquiring positions within global value chains (GVCs), which will enable them to capture

a significant proportion of globally co-created value. Importantly it requires regional policy makers working in close yet arm's length (see below) collaboration with regional business to act as focal orchestrators and governance structure shapers of co-created ecosystems and clusters, through possession and/or control of an inimitable advantage, capability and/or bottleneck assets that provides them with context creating and bargaining power comparable to that of focal (usually multinational) business. The said asset can be resource (e.g. Scotch whisky) or institutional/organisational in nature (e.g. smart incentive compatible regulations and support to locally based business, notably SMEs, within a selected niche).

Both the German Mittelstand (and its highly specialised advanced manufacturing SMEs), and the British Midlands - aptly named 'Midlandstand' - adopt multi-niche strategies focusing on products and activities of low interest to multinational giants yet hard to imitate and critical for the final product (hence bottlenecks) can be seen as examples. Regional policy makers should aim to help co-identify such bottleneck assets and support their development, to enhance a region's ability to capture value. The UK as a whole has begun to adopt similar regional level policy measures, such as via the 'High-Value Manufacturing Catapult' and 'Advanced Propulsion Centre, in the West Midlands. These build, for example, on the 'Niche Vehicle Network' developed in the region on open innovation principles so as to facilitate low carbon technologies as enabling technologies across a range of sectors, building on long standing competencies in the region. An interesting dimension is how firms have been assisted not only to reposition on the existing GVC in terms of higher value tasks but also in terms of positioning on a completely new GVC as the auto industry shifts into an era of autonomous connected electric (ACE) cars (see Bailey et al, 2018a).

Insert Figure 2 Here

Figure (2) provides an overview of the above factors, illustrating how the SM strategies for value capture are scalable and/or adaptable to the regional level. Here, one possibility might be to view CRA as being a sophisticated (and ambidextrous) strategy based upon attaining a relative cost/differentiation position, through either reducing unit costs, improving differentiation and/or in combination within a selected niche. In this regard, place-based industrial strategies ought to employ policies geared towards identifying niches and leveraging and developing skills and capabilities within such regionally embedded niche activities, concomitantly exploring a regional related diversification strategy within technological domains so as to encourage synergies and regional branching, from which new innovative and

commercial opportunities may arise (McCann and Ortega-Argilés, 2015). This should enable regions – especially lagging regions – to upskill, enhance productivity and move onto a lower unit cost/higher differentiation trajectory.

These possibilities cannot and should not be left to market forces, since markets do not develop strategies. Moreover, a long term RIS (with public funding) offers regions a longer horizon in pursuing both exploitation-exploration activities. Regional policy-makers moreover, need to continually review and reassess a region's comparative advantages and positioning to ensure consistency with changing circumstances and stages of development and also to identify changes taking place in GVCs. For instance, policies towards FDI might be geared towards attracting high knowledge-intensive FDI rather than inward investments based upon low cost of labour; a high minimum wage policy might be utilised when required as in the case of Singapore (Lall, 2000). Again this is a matter of governance, and it is important to ensure that in leveraging locational advantages, the activities of multinational firms are aligned with a region's long-term positioning and overall strategy. This is critical in an era of "fragmentation", where multinationals often slice the value-chain, exercise 'divide and rule' strategies and choose 'optimal' locations for each part of their production process (Coffey and Tomlinson, 2006).

Sustainable regional development requires these elements to be jointly pursued so as to ensure both value creation and value capture in the regional eco-system. From SM, we learn competitive advantages are linked to positioning; if regional eco-systems are continually diagnosed and upgraded, and appropriate FDI attracted via Investment Promotion Agencies in a way aligned with these locational advantages; this can in turn support the pursued regional positioning. Bottleneck (occupying a critical position-passage point) assets and capabilities should be identified and leveraged in the context of specialisation within advantages-compatible segments of GVCs and emerging GVCs.⁶ Identifying what are advantages-compatible capabilities, can be beyond the resources and capabilities of many SMEs. The public sector can be critical in funding the requisite research and disseminating the information, knowledge and training to those who can benefit from it, acting as a 'public entrepreneur' (Klein et al., 2013). Universities may also play a role as regional anchors, providing their

⁶The requisite conditions for achieving these are not easy, and are arguably becoming more stringent in developing countries, (Stiglitz, 2001). At the same time, specialisation in segments of global value chains can provide some scope for smart, agile and effective industrial policy (UNCTAD, 2012).

expertise can be fruitfully aligned with the regional knowledge base (Benneworth, 2018). In Cluj in Romania, the municipal strategy (co-developed with local academics) which focused on education is credited with the transformation of the town from an ‘industrial graveyard’ to successful IT cluster (Economist, 22/12/2018, p42).

The process of identifying suitable projects for state support requires strategic collaboration between private and public sectors at the regional level, in an ‘entrepreneurial process of discovery’ whereby firms and state agencies co-learn about underlying costs and opportunities (Rodrik, 2004). In practice, this means the sharing of often commercially sensitive information about potential opportunities, as well as critical evaluation and policy learning. This in turn requires establishing inclusive governance structures, built on trust, reciprocity and broader aspects of social capital to ensure the full and appropriate participation of public and private actors. Through public-private collaboration, consultation and ‘brain storming’ and mutual monitoring, the challenges of ‘government failure’ and ‘picking winners’ which plagued earlier industrial policy initiatives can potentially be reduced. Of course, the devil is always in the detail: the ‘appropriate’ above. Rodrik (*ibid*) suggests public-private relations must be at arm’s length to avoid collusion and regulatory capture-but this is easier to stipulate than achieve in practice. Critics point to Public Private Partnerships (PPPs) often serving to socialise risks and privatise profits. Too inclusive a governance structure by regional policy makers can be leveraged in the interest of private multi-national players with tighter governance structures. There is more to ‘smart’ than meets the eye, and hence much more to be done in terms of fostering sustainable regional value capture potential than often acknowledged in 3S and related views. Cross fertilisation with SM is key towards this objective.

It is worth observing our approach goes beyond viewing public policy in terms of being ‘market guided’ or ‘guiding the market’ as it is often presented in more conventional industrial policy debates. Instead, we suggest ‘market-guided market guidance’, whereby the national and/or regional policy makers identify, listen to and are guided by the market signals as well as the interests and concerns of its participants. At the same time, the public sector also identifies the limitations, possible failures and needs for gap filling and support required to guide the market. Hence, the approach is ‘market guided market guidance’. An instructive example is industrial policy post 2015 in Emilia-Romagna, particularly through its ‘*Patto per il Lavoro*’ (Pact for Employment and Growth) (Bianchi and Labory, 2018). The Pact is viewed as a long-term vision for regional development, comprising a shared understanding of challenges and a joint

approach to foster investment, growth and better jobs, with interventions to leverage the region's strategic assets. Similarly, the case of the UK's Automotive Council is a collaborative effort bringing together OEMs, government and universities to explore challenges facing the sector. The Council has, for example, been developing roadmaps for critical new technologies which have been used to then guide investment via the Higher Education system and businesses, thus offering a degree of commitment and certainty for firms, and underpinning private sector investment (Bailey and De Propriis, 2014).

It might appear from our discussion the required learning is uni-directional, from SM to RIS. However, SM can learn from RIS too. For example, SM could benefit from a better appreciation of place. With the exception of work in international business (Pitelis and Teece, 2018), place is all but absent in SM. Yet without an analysis of space, the direction of expansion by firms that is best suited to fostering SCA is incomplete. RIS also points to public entrepreneurs and their activities as being complements to private initiatives. Such a view helps counterbalance the often suspicious and even inimical attitude of (in particular big business) to government intervention. SM can learn from RIS that sustainable value creation/co-creation requires a level playing field and fairer distribution of the benefits-hence, the need for competition and regulation policies. Too much focus on value capture can be inimical to the sustainability of value co-creation (Mahoney et al, 2009). Corporate social responsibility and enlightened business can and must self-regulate, but one cannot rely purely on enlightenment and/or self-regulation. Hayek (1944) argued governments should do no other planning than planning for competition. Many a modern public policy maker forgets to even do that, let alone leverage regional value capture strategies to help create a level playing field and help foster regional SCA.

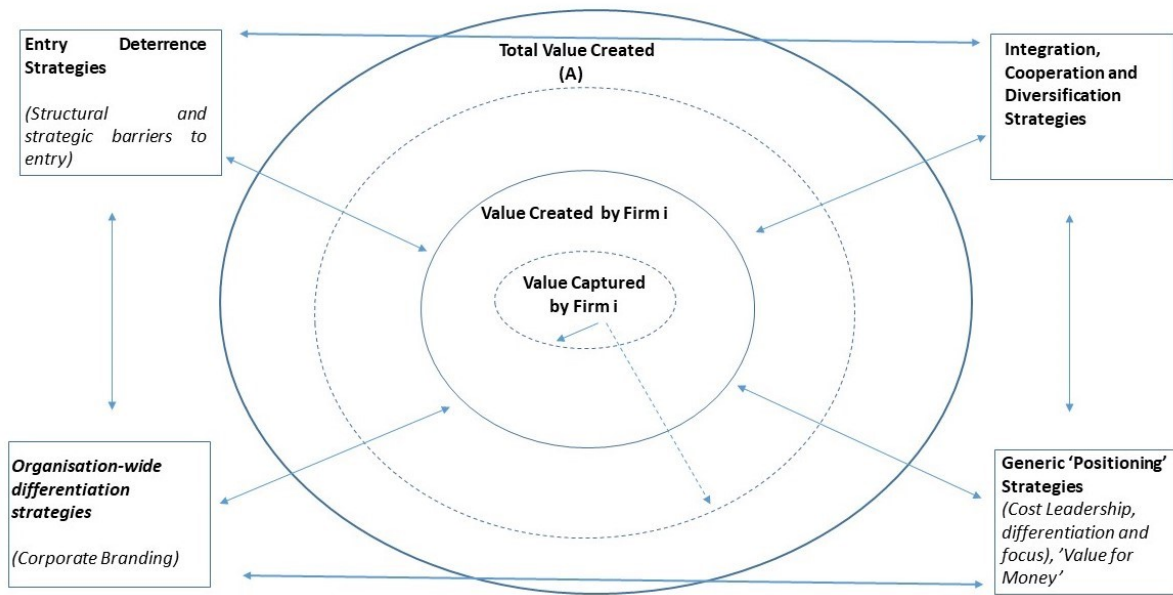
5. Concluding Comments, limitations and research opportunities

Recent developments in place-based industrial strategy acknowledge both value creation and the role of commercialisation, but largely ignore value capture as such, and the 'what' and 'how' (and how much) of specific value capture strategies to help regions gain SCA, help co-create value and retain for regional actors a fair share of the said co-created value. By drawing on the SM literature, this paper has sought to demonstrate how SM-inspired value capture strategies are scalable or otherwise applicable to the regional level. In addition, we show how cross-fertilisation can help SM appreciate and focus more on the issue of sustainability of the value co-creation process that can be prejudiced from an exclusive focus on value capture by

firms accompanied by limited antitrust and regulation policies by public policy makers. The latter can eventually undermine the sustainability of organisational advantage too. Besides its limited focus on specific value capture strategies, the new RIS approaches often ignore or downplay the need for anti-trust and regulation. A focus on sustainability of advantage helps also redress this. More work on the interface of SM and RIS can pay more attention to the interrelationship between regional, national and inter-national advantages and requisite policies for sustainable global value creation.

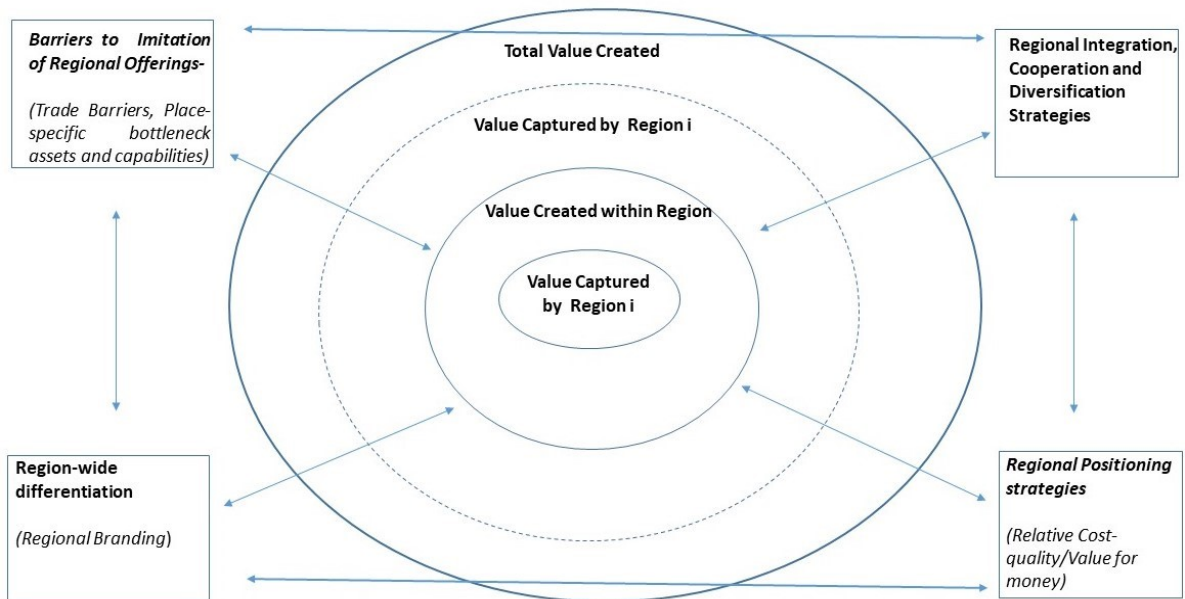
Additionally, and as noted by the public choice school (Mueller, 2003), successful RIS requires accounting for the personal interests of regional policy makers, the risks associated with regulatory capture and the requisite governance structures that help mitigate that. These issues also receive limited attention in 3S type perspectives and as such risk ignoring that private sector interests (even of locally based private actors) need not always be aligned (and/or entail potential for closer alignment) to national or regional interests. In this context the appropriate system-wide sustainable value fostering division of labour between public and private are also key, yet underexplored in the 3S and related approaches. These are beyond the scope of this paper, but offer important future research considerations and opportunities.

Figure 1: Groups of Business Strategies for Value Capture



Source: Based on Pitelis (2009a)

Figure 2: Groups of Place Based Industrial Value Capture Strategies



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